



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,383	08/27/2003	Nobuhito Matsushiro	BD0304T	5361

7590 06/30/2004
KANESAKA & TAKEUCHI
1423 Powhatan Street
Alexandria, VA 22314

EXAMINER


HINZE, LEO T

ART UNIT	PAPER NUMBER
----------	--------------

2854

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,383	Applicant(s) MATSUSHIRO ET AL.	
	Examiner Leo T. Hinze	Art Unit 2854	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2854

DETAILED ACTION

Drawings

1. Figures 7 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Asako et al., US 6,215,511.

Regarding claim 1, Asako et al. teach a print head (27, Fig. 2) comprising: a plurality of light emitting devices (31, Fig. 2) disposed at such positions as to make exposure at substantially equal intervals in a first direction, adjacent devices of said light emitting devices being shifted

Art Unit: 2854

from each other in a second direction perpendicular to said first direction; and a plurality of drive circuits (31a, 31b, Fig. 2) each driving corresponding one of said light emitting devices.

Regarding claim 2, Asako et al. also teach wherein said adjacent devices are disposed in a stepped fashion in said second direction (Fig. 20a).

Regarding claim 3, Asako et al. also teach an array which is structurally identical to one wherein an extent of said stepped-fashion is determined such that said stepped-fashion provides spatial frequency characteristics exceeding a specific spatial frequency, wherein said spatial frequency characteristics are determined by distances in said first direction between one of said light emitting device and the others of said light emitting devices and positioning differences in said second direction between said one of said light emitting devices and said others of said light emitting devices (Fig. 20a).

Regarding claim 4, Asako et al. also teach an array which is structurally identical to one wherein said spatial frequency characteristics have a predetermined frequency band width (Fig. 20a).

Regarding claim 5, Asako et al. also teach an array which is structurally identical to one wherein said spatial frequency characteristics have characteristics of a blue noise (Fig. 20a).

Regarding claim 6, Asako et al. also teach an array which is structurally identical to one wherein said spatial frequency characteristics have characteristics of a line spectrum noise indicating specific spatial frequencies (Fig. 20a).

Regarding claims 3-6, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a

Art Unit: 2854

product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Depending upon the frequency characteristics selected in claims 3-6, the product produced by such a process could be identical to that taught by the prior art as discussed above. See MPEP § 2113.

Regarding claim 7, Asako et al. also teach a plurality of memories (82, Fig. 14) each storing a delayed time of corresponding one of said light emitting devices with respect to a reference light-emitting signal; and a plurality of delaying means (col. 4, lines 38-43) each delaying said reference light-emitting signal according to said delayed time stored in corresponding one of said memories, wherein each of said drive circuits drives said corresponding one of said light emitting devices according to said reference light-emitting signal delayed by said corresponding one of said delaying means (col. 4, lines 17-42).

Regarding claim 8, Asako et al. also teach wherein said delayed time stored by each of said memories is determined for every one of light emitting devices with predetermined distribution characteristics (col. 19, lines 7-65).

Regarding claim 9, Asako et al. teach an image forming apparatus comprising: a photosensitive member (25, Fig. 1); and a print head (27, Fig. 2) including a plurality of light emitting devices for emitting light said photosensitive member so as to form an electrostatic latent image on said photosensitive member main scanning direction, wherein each of said light emitting devices is arranged in a stepped-fashion with respect to each other a sub-scanning direction perpendicular to said main scanning direction (Fig. 20a).

Art Unit: 2854

Regarding claim 10, Asako et al. teach an image forming apparatus comprising: the print head according to claim 8 (27, Fig. 2); a photosensitive member (25, Fig. 1) of which a surface is movable in said second direction with respect to said print head; and an image forming section (21, 22, 23, 24, Fig. 1) for forming an image according to said electrostatic latent image formed on said surface of said photosensitive member.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sekiya et al., US 6,563,526, Itoh et al., US 5,258,629, De Schamphelaere et al., US 4,575,739, and Tsukada et al., US 4,435,064 each teach image forming apparatus having obvious similarities to the instant application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2854

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo T. Hinze
Patent Examiner
AU 2854
26 June, 2004



ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800